Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) An apparatus for 3D shape measurement, comprising:

a laser projecting device including a line-laser projector and LEDs attached to the line-laser projector as markers for estimating the position and orientation of the laser projecting device;

an image capturing device for capturing the laser projecting device and a target object; and

a computer for detecting a projected line-laser light and LEDs from a captured image and processing the image to compute a 3D shape measurement.

2. (Previously Presented) The apparatus for 3D shape measurement defined in claim 1, further comprising a display device for displaying the 3D shape captured by the apparatus.

3. (Previously Presented) A method for 3D measurement using the apparatus of claim 1, the method comprising:

projecting a line-laser to an object, the apparatus having LEDs attached to the line-laser projector for estimating the position and orientation of the laser projecting device;

capturing projected line-laser light and the LEDs at the same time using the image capturing device;

calculating, using the computer, a 3D shape of the object from the captured image using a triangulation method; and

outputting the calculated 3D shape.

4. (Previously Presented) A method and a system for displaying information, comprising:

means for processing the steps defined in claim 3 in real-time; and

means for displaying the 3D shape acquired by the previously defined steps on a display device.

5. (Currently Amended) A method for improving 3D shape using a triangulation method, the method comprising:

selecting 3D points precisely measured previously ~~by other methods~~ or 3D points with high accuracy from the 3D shape acquired by the method of claim 3 as known 3D points;

calculating a difference between the 3D depth value of a known 3D point and the 3D depth value estimated by the method of claim 3 as an error function; and

correcting the position and orientation of the laser projecting device by minimizing the error function.

6. (New) The method of claim 5, wherein the known 3D points are based on points that are measured many times and the variances are small.

7. (New) The method of claim 5, wherein the known 3D points are measured using an active stereo method based on triangulation.